



MUNICIPAL DISTRICT OF GREENVIEW

Greenview compiled the Agricultural Pest and Weed Seed Management Guidelines to mitigate the potential spread of pest and weed infestations will assist Industry and Construction in working with Greenview to minimize the spread of weed and pests.

Of all agricultural pests, the chief concern for Greenview is Clubroot. Clubroot is a soil-borne disease that affects canola, mustard, and other cruciferous plants in the brassica family. Topsoil contaminated with clubroot spores may be transported between fields by equipment, vehicles or by personnel. Symptoms of infection will vary depending on the growth stage of the plant. Clubroot causes the formation of a "club" or "gall" within the plant's roots.

Weeds are well known for their spread potential, often hitching a ride on uncleaned equipment that has worked through infested land or soil. They can also spread through soil movement for project construction or equipment from an infested location to a clean site.

The best way to prevent the spread of pest, disease, and weed seeds is to clean vehicles, equipment and personnel so that potentially impacted topsoil is not carried from one land parcel to the next.

The risk of spreading economically damaging weed seeds and agricultural pests through industry and construction projects concerns Greenview. Infestations from agricultural pests can impact an agricultural producer's income for as many as 15 years. Weed seeds can wait in soil for many years and, once established, can take years to control effectively. Following these guidelines can reduce the likelihood of spreading these economically damaging concerns.

Greenview Agricultural Services developed a risk matrix to help determine the risk of spreading weed seeds and pests. The matrix allows even-handed assessment of the project's level of risk and provides cleaning and mitigation steps to reduce the risk of spread.

A. Introduction

This procedure outlines the mitigation measures that should be followed projects, meeting the requirements and best practices set out in the following documents:

- Alberta Clubroot Management Plan issued by the Government of Alberta; and,
- Clubroot Disease Management: Best Management Practices published by the Canadian Association of Petroleum Producers.

Protocols for the mitigation of Clubroot are also best management practices for mitigating Fusarium, Aphanomyces, Verticillium Wilt, and the spread of weed seeds via soil movement. The plan provides the cleaning protocols and documentation required for the duration of the project and mitigations to address concerns associated with the spread of these economically destructive issues.

- All vehicles, including trucks, all-terrain vehicles (ATVs), and equipment that are undertaking topsoil handling or may come into contact with topsoil, must arrive at the site in a clean condition free of topsoil vegetative debris. Inspect all vehicles and equipment when it arrives on-site to ensure it is free of soil and debris.
- Avoid using common field approaches to enter fields whenever possible as this is the most common place to find Clubroot in any area due to the high volume of equipment and vehicle traffic.
- Minimize vehicle, equipment and personnel contact with agricultural topsoil.

- Postpone work if the topsoil is wet or if there are high winds or other environmental conditions that may increase the risk of soil transfer.
- Minimize tracking topsoil onto Municipal Road surfaces.
- Topsoil transfer between land parcel boundaries is prohibited.
- Personnel should wear plastic/tyvek disposable boots or disinfect footwear with bleach solution when walking on cultivated agricultural land. Booties are to be worn in one field only and disposed of after use.
- If a vehicle does have large clumps of mud on it, leave it where you acquired it. (e.g., knock off any dirt before exiting the field or farm site.)
- Periodically disinfect brooms and shovels used in cleaning and when moving to a new area. A tool bath or soak for 20 minutes in disinfectant is required.
- **WOODEN RIG MATTING IS NOT RECOMMENDED AS IT IS DIFFICULT TO CLEAN/SANITIZE BETWEEN PARCELS.**

B. Roles and Responsibilities

It will be the responsibility of any personnel travelling on or disturbing topsoil, whether by foot, truck or equipment, to ensure that they adhere to the proper cleaning protocol dictated by these procedures. Make contact with Greenview Agricultural Services before project commencement. Ensure that the completed plan is communicated and distributed to necessary personnel for review and use. Ensure that the objectives and requirements are communicated to all project personnel and promptly communicate changes.

C. Agricultural Pest and Weed Seed Management Plan Protocols

- a) Contact has been made with the Greenview Agricultural Services Department to assess the location of the proposed work fronts and associated field access points before construction to assist with risk identification. If soil analysis is conducted, results and visual inspection of equipment should be shared with the landowner. All parties involved must understand the status of the land to reduce the spread of diseases, pests, and weeds effectively.
- b) All vehicles, including trucks, all-terrain vehicles (ATVs), and equipment that are undertaking topsoil handling or may come into contact with topsoil, must arrive at the site clean and free of topsoil and vegetative debris.
- c) Crews will try to avoid the main field access point during surveys, where possible.
- d) Field access and equipment staging locations will be suitably prepared (i.e. strip topsoil);
- e) Working in wet conditions will be avoided, where possible.
- f) Topsoil transfer across land ownership boundaries is prohibited.
- g) Work practices are in place to minimize soil erosion.
- h) Periodic disinfection of brooms and shovels used in cleaning; and,
- i) Avoid the use of hay or straw for erosion control and reclamation work.

D. Risk Classification

Townships within Greenview have been assigned a Risk Level for use with the Risk Level Matrix, *Appendix A*. The risk level reflects the potential of pests and weed seed spread from that location, with corresponding levels of recommended cleaning. To determine the risk, locate the township designation of the land the works will occur on. Refer to *Appendix C* and *D* to determine township risk rating for weeds and pests. These values will be utilized, along with the type of location and work being conducted, to determine the sites level of risk and the cleaning protocol required by equipment operating within that worksite.

E. Cleaning Documentation

Documentation is a key element of this management plan. Completing these elements is advisable for any personnel, equipment, and vehicles on the right-of-way (RoW) to contact topsoil or be involved in topsoil disturbance to reduce the risk of spread along with potential liability claims.

Once all topsoil has been stripped from the RoW, no further cleanings will be required for personnel, equipment, or vehicles operating solely on subsoil. If any topsoil contact occurs, the cleaning and documentation procedures should be followed.

1. Preparing to Start a New Project

Before any equipment starts operating on the project, an initial cleaning inspection should be completed off-site, along with written and photographic documentation. All equipment should be cleaned to a level 3 standard prior to project commencement, arriving at the site free of debris, soil or vegetation. Bleaching the equipment prior to project initiation and documenting the process is advisable. A written record and photographs of the initial equipment cleanings should be updated and maintained. This protects the operator and company from liability.

When entering a land parcel:

- a) The operator should check and be aware of the risk classification of the Project area to ensure that an appropriate cleaning is completed when entering and exiting the land parcel.
- b) The operator should ensure that the equipment or vehicle carries the appropriate cleaning tools before entering the land parcel or ensure that a wash station is available upon exiting the property to complete a level 2 or 3 wash.
- c) The operator should ensure that a copy of the initial cleaning log and cleaning records are stored within the equipment or vehicle before entering the land parcel.

When exiting a land parcel:

- a) The operator should ensure that the equipment or vehicle has been cleaned to the level determined by the Risk Matrix.
- b) Documentation of the cleaning procedure followed is strongly advised.

2. Recommended Documentation

A cleaning record logbook with triplicate carbon copy will be supplied upon request from Greenview Agricultural Services and should be kept within every piece of equipment and vehicle for the project duration. All equipment and

vehicles should be able to produce a copy of cleaning records that have been completed since the equipment/vehicle started work on the project. The cleaning record logbook will include a form with two carbon copies outlining the level of cleaning completed for each piece of equipment. A sample copy of the form is provided in Appendix B.

WEED AND PEST RISK MATRIX					
Geographic Pest Risk By Township	HIGH (+40)	MEDIUM (+10)	LOW (+2)	NOT FOUND (0)	
	More than 6 Agricultural Pest Cases	Less than 5, more than 3 Agricultural Pest Cases	Less than 3 Agricultural Pest Cases	No Agricultural Pests Found	+
Work and Soil	EXPOSED (+12)	POTENTIAL EXPOSURE (+10)	MITIGATED (+2)	GRASSED (0)	
	Equipment will contact topsoil on privately held land	Equipment may contact topsoil on privately held land	Equipment may contact topsoil on grassed land	No bare soil	+
Geographic Weed Risk By Township	HIGH (+12)	MEDIUM (+8)	LOW (+2)	Negligible (0)	
	More than 15 significant infestations of Concern 2 or 3 species	Less than 15, more than 10 significant infestations of concern 2 or 3 species	Less than 10, more than 5 significant infestations of concern 2 or 3 species	No recorded Infestations of Concern	+
TOTAL POINTS					=

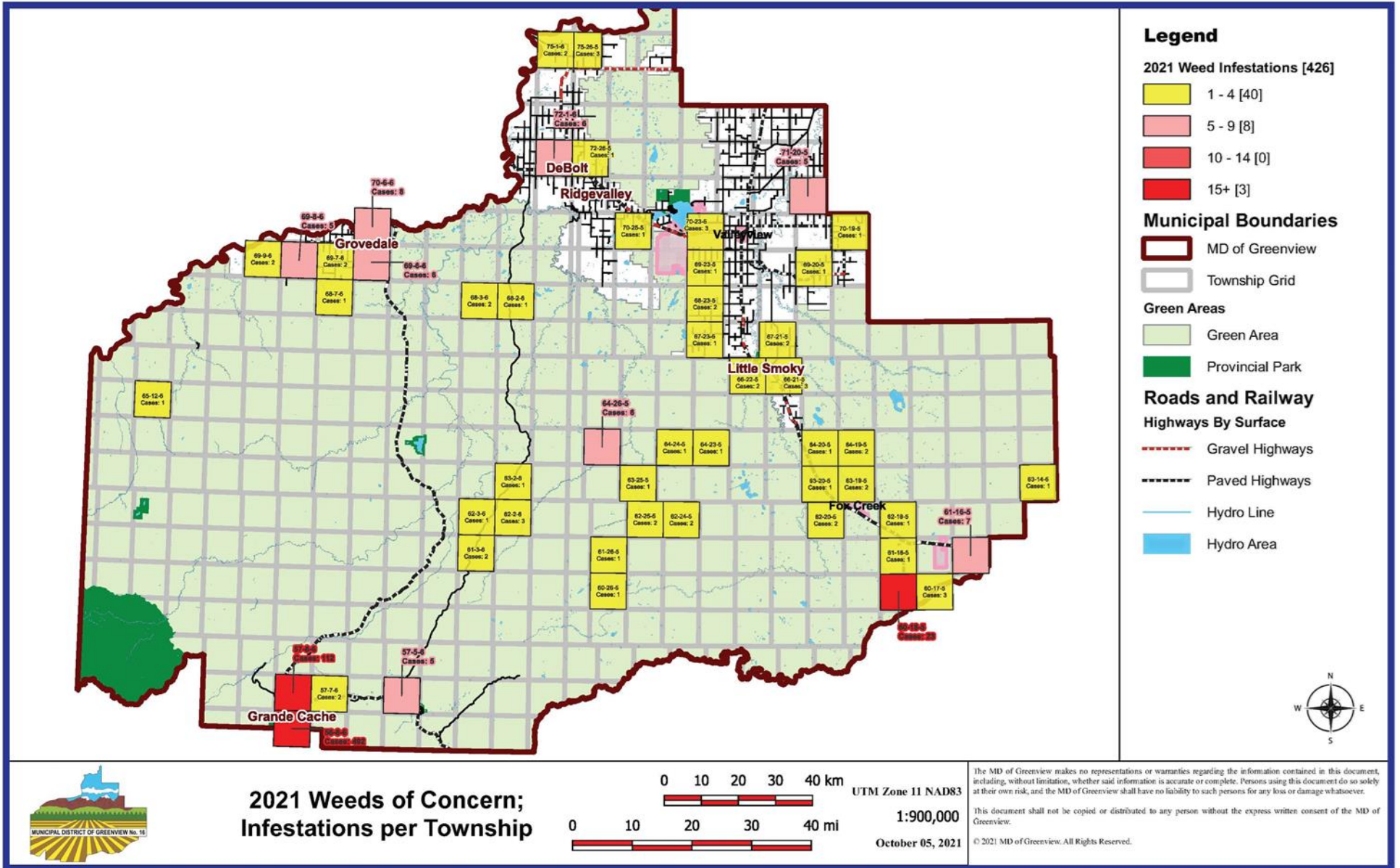
POINTS	CLEANING AND MITIGATION STEPS
0-13	LOW RISK: Level 1 Cleaning. Requires mechanical cleaning before entering and upon exit (remove soil with a broom or shovel)
14-39	MEDIUM RISK: Level 2 Cleaning. Requires mechanical removal and a high pressure wash with water or steam
40+	HIGH RISK: Level 3 Cleaning. Mechanical removal, high-pressure wash and disinfecting (with 2% Bleach Solution)

Appendix A

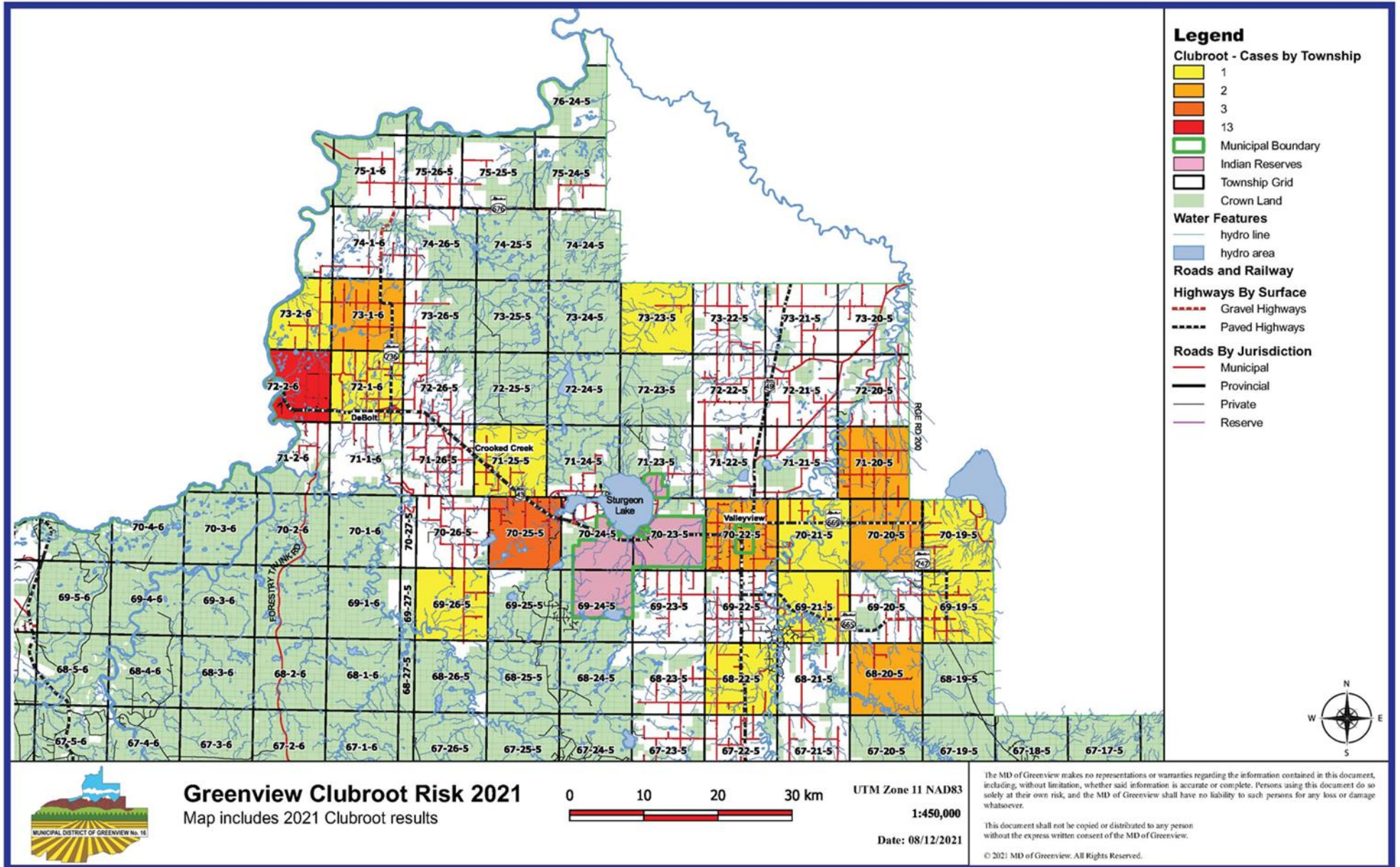
Cleaning Record for Independant Equipment/Vehicles

Date		Time	
Project		Unit Number	
Company Name		Equipment Identified or Vehicle License Plate	
Worksite Legal			
Risk Matrix Total:			
Direction of Travel (circle applicable risk level and level of cleaning)			
Leaving:	HIGH RISK	MEDIUM RISK	LOW RISK
Entering:	HIGH RISK	MEDIUM RISK	LOW RISK
Level of Cleaning Required	Level 1	Level 2	Level 3
Description of Equipment/Vehicle			
Equipment Operator Name:		Equipment Operator Signature:	
Required Signatures for Level 2 and 3 Cleanings			
Name:		Signature:	
Name:		Signature:	

Appendix C



Appendix D



- Legend**
- Clubroot - Cases by Township**
- 1
 - 2
 - 3
 - 13
- Water Features**
- hydro line
 - hydro area
- Roads and Railway**
- Highways By Surface**
- Gravel Highways
 - Paved Highways
- Roads By Jurisdiction**
- Municipal
 - Provincial
 - Private
 - Reserve
- Other Features:**
- Municipal Boundary
 - Indian Reserves
 - Township Grid
 - Crown Land





MUNICIPAL DISTRICT OF GREENVIEW No. 16

Vehicle & Equipment Inspection Form For Greenview Contractors

Inspection Date:	
Location:	
Project Name:	
Contractor/Consultant:	
Contractor Representative:	
Vehicle/Equipment Description: I.e. make/model/type	

Are there landowner equipment cleaning commitments for this job?	
Last area vehicle/equipment worked:	
Vehicle/equipment was cleaned prior to arrival	
Equipment maintenance records supplied	
Environmental Inspection	
Are the following areas free of all dirt, mud, vegetation and vegetative debris	

COMMENTS

Main Body		
Tracks/tires		
Under carriage		
Cab		
Overall Equipment/ vehicle condition		
Truck deck that equipment was hauled on		
Any visible fuel, oil or antifreeze leaks		

Greenview Representative Signagure

Contractor Reprerentative Signature